Title (en)

METHOD OF APPLYING ATOMIC LAYER DEPOSITION COATINGS ONTO POROUS NON-CERAMIC SUBSTRATES

Title (de)

VERFAHREN ZUR AUFBRINGUNG VON ATOMSCHICHT-ABLAGERUNGSSCHICHTEN AUF PORÖSEN NICHTKERAMISCHEN SUBSTRATEN

Title (fr)

PROCÉDÉ D'APPLICATION DE REVÊTEMENTS PAR DÉPÔT DE COUCHES ATOMIQUES SUR DES SUBSTRATS POREUX NON CÉRAMIQUES

Publication

EP 2480703 A4 20131030 (EN)

Application

EP 10819262 A 20100915

Priority

- US 24471309 P 20090922
- US 24469609 P 20090922
- US 2010048902 W 20100915

Abstract (en)

[origin: WO2011037798A1] A method of depositing a conformal coating on a porous non-ceramic substrate requires reactive gases to flow through the substrate so as to leave a conformal coating behind. The process can be used to leave a hydrophilic surface on the interior pores of the substrate, even when the substrate is of a naturally hydrophobic, e.g., olefinic material. The method can be used in a roll-to-roll process, or in a batch process. In some convenient embodiments of the latter case, the batch reactor and the conformally coated substrate or substrates can together go on to be come part of the end product, e.g., a filter body and the filter elements respectively.

IPC 8 full level

C23C 16/455 (2006.01); **C23C 16/00** (2006.01); **C23C 16/06** (2006.01); **C23C 16/30** (2006.01); **C23C 16/54** (2006.01); **H01L 21/205** (2006.01)

CPC (source: EP KR US)

C08J 9/365 (2013.01 - EP KR US); **C23C 16/045** (2013.01 - EP KR US); **C23C 16/403** (2013.01 - EP KR US); **C23C 16/45525** (2013.01 - EP KR US); **C23C 16/45546** (2013.01 - EP KR US); **C23C 16/45555** (2013.01 - EP KR US); **C23C 16/545** (2013.01 - KR); **D06C 29/00** (2013.01 - EP US); **D06M 11/36** (2013.01 - EP KR US); **D06M 11/45** (2013.01 - EP KR US); **D06M 11/53** (2013.01 - EP KR US); **D06M 11/58** (2013.01 - EP KR US); **D06M 23/005** (2013.01 - EP US); C08J 2201/038 (2013.01 - EP US); H01L 21/02422 (2013.01 - EP US); H01L 21/02428 (2013.01 - EP US); H01L 21/02532 (2013.01 - EP US); Y10T 428/1362 (2015.01 - EP US); Y10T 428/1376 (2015.01 - EP US); Y10T 428/249958 (2015.04 - EP US); Y10T 442/2861 (2015.04 - EP US)

Citation (search report)

- [Y] US 2007281089 A1 20071206 - HELLER CHRISTIAN MARIA ANTON [US], et al
- [A] US 2008119098 A1 20080522 - PALLEY IGOR [US], et al
- [X] KEMELL M ET AL: "Coating of highly porous fiber matrices by atomic layer deposition", CHEMICAL VAPOR DEPOSITION, WILEY-VCH VERLAG, WEINHEIM, DE, vol. 14, no. 11/12, 16 December 2008 (2008-12-16), pages 347 - 352, XP001517316, ISSN: 0948-1907, DOI: 10.1002/ CVDE.200800710
- [XY] RITALA M ET AL: "RAPID COATING OF THROUGH-POROUS SUBSTRATES BY ATOMIC LAYER DEPOSITION", CHEMICAL VAPOR DEPOSITION, WILEY-VCH VERLAG, WEINHEIM, DE, vol. 12, 1 January 2006 (2006-01-01), pages 655 - 658, XP001501971, ISSN: 0948-1907, DOI: 10.1002/CVDE.200604228
- See references of WO 2011037798A1

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO SE SI SK SM TR

DOCDB simple family (publication)

WO 2011037798 A1 20110331; BR 112012005212 A2 20160315; BR 112012005997 A2 20160322; CN 102575346 A 20120711; CN 102575346 B 20150128; CN 102782179 A 20121114; CN 102782179 B 20151125; EP 2480702 A2 20120801; EP 2480702 A4 20131030; EP 2480703 A1 20120801; EP 2480703 A4 20131030; JP 2013505156 A 20130214; JP 2013505368 A 20130214; JP 5681192 B2 20150304; KR 101714814 B1 20170309; KR 101720821 B1 20170328; KR 20120073280 A 20120704; KR 20120085262 A 20120731; US 2012171376 A1 20120705; US 2012171403 A1 20120705; US 8859040 B2 20141014; WO 2011037831 A2 20110331; WO 2011037831 A3 20110623

DOCDB simple family (application)

US 2010048902 W 20100915; BR 112012005212 A 20100915; BR 112012005997 A 20100917; CN 201080042180 A 20100915; CN 201080042237 A 20100917; EP 10819262 A 20100915; EP 10819281 A 20100917; JP 2012530934 A 20100915; JP 2012530946 A 20100917; KR 20127010019 A 20100917; KR 20127010021 A 20100915; US 2010049250 W 20100917; US 201013390900 A 20100917; US 201013392213 A 20100915